

## CLAIMS

What is claimed is:

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1. A microscope slide stainer with random access slide staining capability, comprising:

5 a moving platform adapted to support a plurality of microscope slides bearing biologic samples;

10 a plurality of heating element sets, each set having at least one heating element and each set heating at least one slide, each of said heating element sets having the capability of heating to different temperatures;

15 a temperature controller electronic circuit that provides electrical power to said heating element sets, said temperature controller being mounted on the moving platform; and

20 a user interface in communication with the temperature controller electronic circuit and through which a desired temperature for microscope slides is specified, said user interface being mounted off of the moving platform.

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2. A microscope slide stainer as claimed in claim 1, wherein the temperature controller, capable of moving on said moving platform, and the user interface, not mounted on said moving platform, communicate electrically via a group of wires.

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3. A microscope slide stainer as claimed in claim 2,  
wherein the number of wires in the group of wires is  
fewer than the number of heating element sets.

4. A microscope slide stainer as claimed in claim 1,  
5 wherein the temperature controller electronic circuit  
comprises a shift register which receives control data  
from the user interface.

5. A microscope slide stainer as claimed in claim 1,  
10 further comprising a temperature sensor for providing  
temperature feedback information to the temperature  
controller electronic circuit.

6. A microscope slide stainer as claimed in claim 1  
wherein each heating element set heats a single slide.

7. A microscope slide stainer as claimed in claim 1  
15 wherein each heating element set comprises a flat slide  
support surface.

8. A microscope slide stainer with random access slide  
staining capability, comprising:  
20 a plurality of microscope slides bearing biologic  
samples, positioned on a moving platform;  
a plurality of heating element sets on the moving  
platform, each set having at least one heating element  
and each set capable of heating at least one slide,  
each capable of heating to a temperature distinct from  
25 the temperature of other heaters;

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5 a user interface through which a desired temperature for each microscope slide is specified, said user interface being mounted off of the moving platform and said user interface comprising electronic circuitry; and,

10 a group of wires, for providing an electrical connection between the heating elements on the moving platform and the user interface, the number of wires in said group of wires being less than the number of heater element sets.

9. A microscope slide stainer as claimed in claim 8, further comprising a temperature sensing means for providing temperature feedback data to said user interface.

15 10. An automated device for preparation or incubation of biologic samples, comprising:

a moving platform adapted to support a plurality of biologic samples;

20 a plurality of heaters positioned on the moving platform so as to provide heat to one or more samples;

a computer that specifies the desired temperature for each heater, said computer being mounted off of the moving platform;

25 independent heating control to each of said heaters, said heating control comprising:

a plurality of temperature controller electronic circuits mounted on the moving platform, each supplying electrical power to at least one heater; and

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a data communication link between the computer and each of said temperature controller electronic circuits so that each of said temperature controller electronic circuits provides an appropriate amount of electrical power to each of said heaters so that each heater is heated to the computer-specified temperature.

11. An automated device, as claimed in claim 10, wherein the biologic samples are mounted on a microscope glass slide.

10 12. An automated device, as claimed in claim 10, further comprising a temperature sensor that provides temperature feedback to said computer.

15 13. A microscope slide stainer with random access slide staining capability comprising:

15 a moving platform adapted to support a plurality of microscope slides bearing biological samples;

15 a plurality of heating means, each for heating at least one slide, each of the heating means having the capability of heating to different temperatures;

20 temperature controller means for providing electric power to the heating means, said temperature controller means being mounted on the moving platform; and

25 user interface means in communication with the temperature controller means for specifying a desired temperature for each microscope slide, said user

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interface means being mounted off of the moving platform.

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